

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings, of claims in the application.

Listing of Claims

1-22. (Cancelled)

23. (Currently Amended) A device for scanning and/or recognizing one or more barcodes, comprising:

a laser light source for transmitting a laser light beam;

control means for switching the laser light source on and off;

a rotatable polygonal mirror for reflecting the transmitted laser light beam;

a number of mirrors, disposed in stationary operative positions, wherein ~~each mirror is~~ said mirrors are aligned side by side along a single substantially circumferential direction, for reflecting at least the transmitted laser light beam;

a pick-up element for picking up laser light scattered by a barcode; and

a compact housing to be handheld in which the laser light source, the polygonal mirror, the mirrors and the pick-up element are arranged, wherein the device is to be used alternately in handheld mode and fixed mode and the housing comprises a bottom side which is substantially flat for placement of the housing itself,

wherein said device is capable of casting a fixed mode scan pattern or ~~and a hand mode scan pattern is cast~~ through one and the same window in the housing after reflection of said laser light beam on at least one of said same number of mirrors, and wherein said control means switches the laser light source on or off such that, depending on the switching on and off, the laser light beam selectively falls on at least one of said number of mirrors, thereby generating said hand mode scan pattern or said fixed mode scan pattern.

24. (Previously Presented) The device as claimed in claim 23, comprising: position determining means connected to said control means and arranged in the housing for determining a position of the laser beam falling onto said mirrors.

25. (Currently Amended) The device as claimed in claim 23, wherein said mirrors comprise a mirror which is foldable between two operative positions, in the first position of which a substantially flat front mirror surface of the mirror reflects at least the transmitted laser light incident thereon and in the second position of which a substantially concave rear mirror surface reflects at least the transmitted laser light incident thereon.

26. (Previously Presented) The device as claimed in claim 25, comprising:
folding means arranged in the housing which are connected to the foldable mirror and which fold the foldable mirror between the two positions; and
operating means arranged partially inside and partially outside the housing which are connected to the folding means.

27. (Previously Presented) The device as claimed in claim 26, wherein a part of the operating means protrudes from the flat bottom side of the housing.

28. (Previously Presented) The device as claimed in claim 26, wherein the folding means comprises an electric motor and the operating means comprises a switch for switching the electric motor on and/or off.

29. (Previously Presented) The device as claimed in claim 26, wherein the operating means comprises an operating member protruding partially through a guide opening in the housing, wherein the operating member can be guided into the housing whereby the folding means carry the foldable mirror into the first position and wherein spring means arranged in the housing urges the operating member partially out of the housing whereby the folding means carry the foldable mirror into the second position.

30. (Previously Presented) The device as claimed in claim 29, wherein the operating member is provided with locking means for locking the operating member with the foldable mirror in the first position.

31. (Previously Presented) The device as claimed in claim 24, wherein the position determining means comprises:

sensor means which detects laser light reflected from the polygonal mirror towards at least one of said mirrors; and

rotation speed determining means which determine the rotation speed of the rotatable polygonal mirror.

32. (Previously Presented) The device as claimed in claim 23, wherein the rotatable polygonal mirror comprises a central part and mirror surfaces standing from a first side thereof and is provided on the other side with receiving means which receives a drive shaft for rotational driving of the rotatable polygonal mirror.

33. (Currently Amended) A device within a housing for scanning and/or recognizing one or more barcodes, comprising:

a laser light source for transmitting laser light;

a rotatable polygonal mirror for reflecting the transmitted laser light;

a number of fixedly disposed flat mirrors for reflecting at least the transmitted laser light;

a pick-up element for picking up laser light scattered by a barcode; and

a mirror foldable between two stationary operative positions, in the first position of which a first mirror front surface reflects at least the transmitted laser light incident thereon and in the second position of which a second mirror rear surface reflects at least the transmitted laser light incident thereon.

34. (Previously Presented) The device as claimed in claim 33, wherein the first mirror surface has a substantially flat surface and the second mirror surface has a substantially concave surface.

35. (Currently Amended) A device for scanning and/or recognizing one or more barcodes, which comprises a housing in which are arranged:

a laser light source for transmitting laser light;

a rotatable polygonal mirror, comprising a plurality of flat mirror surfaces defining a lateral surface which is closed around an axis of rotation of said polygonal mirror, for reflecting the transmitted laser light impinging thereon;

a number of fixedly disposed mirrors for reflecting laser light;
a pick-up element for picking up laser light scattered by a barcode; and
drive means for driving a rotating support member;
wherein the polygonal mirror is placed with outer ends thereof on the rotating support member.

36. (Previously Presented) The device as claimed in claim 35, wherein the ends of the polygonal mirror are fixed at least partially to the rotating support member.

37. (Previously Presented) The device as claimed in claim 35, wherein double-sided tape provided with adhesive means is arranged between the ends of the polygonal mirror and the rotating support member.

38. (Previously Presented) The device as claimed in claim 35, wherein the ends of the polygonal mirror are provided with centering pins which engage round or in the rotating support member and which centre the polygonal mirror relative to the drive means.

39. (Previously Presented) The device as claimed in claim 35, wherein a protruding gripping component is fixed to the polygonal mirror.

40. (Previously Presented) The device as claimed in claim 35, wherein the height-width ratio of the polygonal mirror has a value of about 1 or higher.

41. (Previously Presented) The device as claimed in claim 40, wherein a laser light source adjusting member is fixed to the laser light source, which positions the laser light source in only the horizontal direction.

42. (Previously Presented) The device as claimed in claim 35, wherein the rotatable polygonal mirror is arranged in the vicinity of a first corner of the housing and the fixedly disposed mirrors are arranged in the vicinity of an opposite corner of the housing.

43. (Previously Presented) The device as claimed in claim 23, wherein a resilient holder is arranged around at least a part of the housing.

44. (Previously Presented) The device as claimed in claim 33, wherein a resilient holder is arranged around at least a part of the housing.

45. (Previously Presented) The device as claimed in claim 35, wherein a resilient holder is arranged around at least a part of the housing.

46. (Previously Presented) A method for scanning and/or recognizing one or more barcodes, wherein the device as claimed in claim 23 is applied.

47. (Previously Presented) The device as claimed in claim 23, wherein said fixed mode scan pattern is an omnidirectional scan pattern.

48. (Previously Presented) The device as claimed in claim 23, wherein said hand mode scan pattern is a line scan pattern.

49. (Previously Presented) The device as claimed in claim 23, wherein an omnidirectional scan pattern or a line scan pattern is cast through said window during the use as a hand scanner.

50. (Previously Presented) The device as claimed in claim 25, wherein said foldable mirror is foldable around a shaft.

51-53. (Cancelled)

54. (Previously Presented) The device as claimed in claim 23, wherein at least one of said mirrors has a concave reflecting surface.

55. (Previously Presented) The device as claimed in claim 23, wherein said housing is completely constructed from said bottom side which is substantially flat for

placement of the housing, a top side, a standing rear wall, a standing front wall and two standing side walls arranged therebetween, said window being defined on said standing front wall.

56. (Previously Presented) The device as claimed in claim 31, wherein the sensor means is disposed in the vicinity of said at least one mirror, detecting a passage of the laser beam and the point in time at which it occurs.

57. (Currently Amended) A device for scanning and/or recognizing one or more barcodes, comprising:

a laser light source for transmitting a laser light beam;

control means for switching the laser light source on and off;

a rotatable polygonal mirror for reflecting the transmitted laser light beam;

a number of mirrors, disposed in stationary operative positions, wherein ~~each mirror is~~ all said mirrors are aligned side by side along a single substantially circumferential direction, for reflecting at least the transmitted laser light beam;

a pick-up element for picking up laser light scattered by a barcode; ~~and~~

a compact housing to be handheld in which the laser light source, the polygonal mirror, the mirrors and the pick-up element are arranged, wherein the device is to be used alternately in handheld mode and fixed mode,

wherein said device is capable of casting a fixed mode scan pattern ~~and/or a hand mode scan pattern~~ ~~is cast~~ through one and the same window in the housing after reflection of the laser light beam on at least one of said same number of mirrors, and

wherein said control means switches the laser light source on or off such that, depending on the switching on and off, the laser light beam selectively falls on at least one of said mirrors, thereby generating said hand mode scan pattern or said fixed mode scan pattern.

58. (Previously Presented) The device as claimed in claim 57, wherein at least one of said mirrors has a concave reflecting surface.

59. (Previously Presented) The device as claimed in claim 57, comprising:

position determining means connected to said control means and arranged in the housing for determining a position of the laser beam falling onto said mirrors.

60. (Previously Presented) The device as claimed in claim 59, wherein the position determining means comprises:

sensor means which detects laser light reflected from the polygonal mirror towards at least one of said mirrors; and

rotation speed determining means which determine the rotation speed of the rotatable polygonal mirror.

61. (Previously Presented) The device as claimed in claim 60, wherein the sensor means is disposed in the vicinity of said at least one mirror, detecting a passage of the laser beam and the point in time at which it occurs.

62. (Currently Amended) A device for scanning and/or recognizing one or more barcodes, comprising:

a laser light source for transmitting a laser light beam;

control means for switching the laser light source on and off;

a rotatable polygonal mirror for reflecting the transmitted laser light;

a number of mirrors, disposed in stationary operative positions, wherein ~~each mirror is all~~ said mirrors are aligned side by side along a single substantially circumferential direction, for reflecting at least the transmitted laser light beam;

a pick-up element for picking up laser light scattered by a barcode; and

a compact housing to be handheld in which the laser light source, the polygonal mirror, the mirrors and the pick-up element are arranged, wherein the device is to be used alternately in handheld mode and fixed mode,

wherein a fixed mode scan pattern or a hand mode scan pattern is cast through one and the same window in the housing,

wherein said control means switches the laser light source on or off thereby generating said fixed mode scan pattern or said hand mode scan pattern, and

wherein at least one of said number of mirrors has a concave reflecting surface.

63. (Previously Presented) The device as claimed in claim 62, wherein said housing is completely constructed from a bottom side substantially flat for placement of the housing, a top side, a standing rear wall, a standing front wall and two standing side walls arranged therebetween, said window being defined on said standing front wall.

64. (Previously Presented) A device for scanning and/or recognizing one or more barcodes, comprising:

a laser light source for transmitting a laser light beam;

a rotatable polygonal mirror for reflecting the transmitted laser light beam;

a number of mirrors for reflecting the laser light beam;

a pick-up element for picking up laser light scattered by a barcode; and

a compact housing to be handheld in which the laser light source, the polygonal mirror, the mirrors and the pick-up element are arranged, wherein the device is to be used alternately in handheld mode and fixed mode and the housing is completely constructed from a bottom side which is substantially flat for placement of the housing, a top side, a standing rear wall, a standing front wall and two standing side walls arranged therebetween,

wherein a fixed mode scan pattern or a hand mode scan pattern is cast through said standing front wall, both scan patterns being cast through one and the same window in the housing, and

wherein the device comprises a removable protective resilient holder which is arranged at least partially over each of said bottom side, top side, standing rear wall, standing front wall and standing side walls.

65. (Previously Presented) The device as claimed in claim 64, wherein said protective resilient holder is provided with a number of grooves in order to facilitate the gripping of the holder with a hand of an operator.

66. (Previously Presented) The device as claimed in claim 35, wherein the device is to be used alternately in handheld mode and fixed mode, and the housing comprises

a bottom side which is substantially flat for placement of the housing itself and a single window for casting a fixed mode scan pattern or a hand mode scan pattern.

67. (Previously Presented) The device as claimed in claim 35, wherein the device is to be used alternately in handheld mode and fixed mode, further comprising:

control means for switching the laser light source on and off such that, depending on the switching on and off, the laser light beam selectively falls on at least one of said number of mirrors, thereby generating a fixed mode scan pattern or a hand mode scan pattern,

wherein both said fixed mode scan pattern and said hand mode scan pattern are generated by reflection of the laser light on at least one of said number of mirrors.

68. (Previously Presented) The device as claimed in claim 67, comprising:
position determining means connected to said control means and arranged in the housing for determining a position of the laser light falling onto said mirrors.

69. (Previously Presented) The device as claimed in claim 68, wherein the position determining means comprises:

sensor means which detects laser light reflected from the polygonal mirror towards at least one of said mirrors; and

rotation speed determining means which determine the rotation speed of the rotatable polygonal mirror.

70. (Previously Presented) The device as claimed in claim 69, wherein the sensor means is disposed in the vicinity of said at least one mirror, detecting a passage of the laser light and the point in time at which it occurs.

71. (Previously Presented) The device as claimed in claim 36, wherein the polygonal mirror and the rotating support member are non-integrally affixed to each other.